

1. (Original) An ice skate blade, comprising:
an elongated blade body having a main blade portion and an edge portion made from Type 60 Nitinol;
said edge portion of said blade body having an ice-contacting bottom edge;
said main blade portion having structure for engaging a blade holder;
said bottom edge having opposed corners that are sharpened to bite into ice to facilitate travel and maneuvering on said ice;
said main blade portion having an impact strength of greater than 45 foot-pounds and a hardness greater than about 40 RC.
2. (Original) An ice blade as defined in claim 1, wherein:
said main blade portion has a tensile strength of greater than 130KSI and an elastic elongation of more than 3%.
3. (Original) An ice blade as defined in claim 1, wherein:
said blade body has a hardness between about 48RC and 55RC.
4. (Original) An ice blade as defined in claim 1, wherein:
said ice blade is an ice skate blade, and said blade holder is affixed to an ice skate boot;
said structure for engaging a blade holder includes structure on a top edge, opposite to said bottom edge, for engaging said blade holder of said ice skate boot.
5. (Canceled).
6. (Original) A method of making ice blades, comprising:
selecting a Type 60 Nitinol sheet that has been hot-worked at a temperature of about 900°C to 950°C to a reduction of at least about 2% in the dimension of said hot-working;
cutting ice blade blanks from said sheet;

heating said blanks to between 600°C to about 800°C and immediately quenching said blanks to ambient temperature to produce blanks having a hardness of about 48-53RC; and

grinding one edge of said blade blanks to a desired profile and sharpness.

7. (Original) A method as defined in claim 6, further comprising:
heat treating of the bottom of the blade to produce a very hard and erosion resistant surface.
8. (Original) A method as defined in claim 7, wherein:
said heat treating of said bottom of said blade includes heating said one edge to an elevated temperature of about 850-1000°C and immediately quenching said blade blank to produce a hardness at said one edge of above 56RC.
9. (Original) A method as defined in claim 6, wherein:
said grinding step includes rotating a narrow grinding blade, made primarily of cubic boron nitride, against said one end of said blade blanks and grinding off a layer of Nitinol in several passes, each pass being at a depth of 0.015"-0.020".
10. (Previously Amended) A method as defined in Claim 6, further comprising:
heating said part to a temperature above 700°C;
placing said part between matched dies having a die interface profile corresponding to said desired shape; and
holding said part at said temperature for a period of at least about 15 minutes.
11. (Original) The method as defined in claim 9, further comprising:
immediately after said holding period, rapidly quenching said part in coolant from said temperature to a temperature below about 400°C.

12. (Original) The method as defined in claim 10, wherein:
said part is an ice blade and said desired shape is flat.
13. (Previously Added) An ice skate, comprising:
an elongated blade body having a main blade portion and an edge portion
made from Type 60 Nitinol;
said edge portion of said blade body having an ice-contacting bottom edge;
said main blade portion having structure engaged in a blade holder that is
fastened to a boot;
said bottom edge having opposed corners that are sharpened to bite into ice
to facilitate travel and maneuvering on said ice;
said main blade portion having an impact strength of greater than 45 foot-
pounds and a hardness greater than about 40 RC.
14. (Previously Added) An ice skate as defined in claim 13, wherein:
said main blade portion has a tensile strength of greater than 130KSI and an
elastic elongation of more than 3%.
15. (Previously Added) An ice blade as defined in claim 13, wherein:
said blade body has a hardness between about 48RC and 55RC.
16. (New) An ice skate as defined in claim 13, wherein:
said main blade portion has a Young's modulus that is lower than the Young's
modulus of steel.
17. (New) An ice skate as defined in claim 13, wherein:
said main blade portion has a higher damping capacity than steel.
18. (New) An ice skate as defined in claim 13, wherein:
said main blade portion has a lower coefficient of friction on the ice than steel.

19. (New) An ice skate as defined in claim 13, wherein:

said edge portion of said blade body heat treated to have a smooth and hard oxide finish on bottom and side edges thereof that is harder and smoother than said main blade portion, and has a lower coefficient of friction to produce glide and running properties on ice superior to steel.

20. (New) An ice skate as defined in claim 13, wherein:

said blade body is heat treated to reduce brittleness and improve toughness and impact strength, and give the skate blade an elastic property called ultraelasticity.